

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed August 11, 2008 (Paper No. 20080802). Upon entry of this response, claims 1-28 are pending in the application. Applicant respectfully requests reconsideration of all pending claims.

I. Rejection of Claims 6-7 and 13-14 under 35 U.S.C. §102

Claims 6-7 and 13-14 are rejected under §102(e) as allegedly anticipated by *Athreya et al.* (U.S. 7,222,348). Applicant respectfully traverses this rejection. A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. See, e.g., *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983).

A. Independent Claim 6

The Office Action contends that *Athreya et al.* teaches all the features of claim 6 as follows:

determining a uni-role first driver registered to the device [device objects correspond to physical devices having M device types; col. 2, lines 20 – 30];
invoking the first driver, which includes passing the PDO of the device to the first driver [filter add device function 450 creates and initializes a new filter device object for the corresponding physical device object; col. 7, lines 8 – 25]; and
passing the PDO from the first driver to the multi-role second driver or to a component of the kernel [driver entry 410 provides an entry point for the UMD 220 in response to an IRP issued by the higher level driver 218; col. 6, lines 60 – 67].
(Office Action, p. 3.)

Applicant respectfully disagrees. Applicant first notes that *Athreya et al.* does not discuss device driver registration at all, and thus does not disclose “determining a uni-role first driver **registered** to the device” as recited in claim 6. Since *Athreya et al.* does not teach all of the features of claim 6, the rejection should be withdrawn.

Applicant next notes that the cited sections of *Athreya et al.* refer to two different drivers, a universal multipath driver (UMD) and a lower-level driver. The Office Action does not clearly explain which of the two types of drivers in *Athreya et al.* corresponds to the claimed “uni-role driver” and which corresponds to the claimed “multi-role second driver”. Applicant will therefore address two alternative interpretations of the rejection, and discuss why *Athreya et al.* does not disclose, teach, or suggest “passing the PDO from the first driver to the multi-role second driver or to a component of the kernel” as recited in claim 6, under either interpretation of the Office Action rejection.

Applicant first assumes that the universal multipath driver of *Athreya et al.* corresponds to the claimed “multi-role driver”, and that the lower-level driver corresponds to the claimed “uni-role driver”. The Office Action relies on *Athreya et al.* Col. 7, lines 8-25 in the rejection, a section which describes various entry points to the universal multipath driver. This section appears to teach that calling the filter add device function entry point 250 in the universal multipath driver would in turn invoke the lower-level driver (allegedly “invoking the first driver”). However, *Athreya et al.* **does not** disclose, teach, or suggest “passing the PDO” from the lower-level driver back to the calling multipath driver (allegedly “passing the PDO from the first driver to the multi-role second driver”) as explained below.

This feature is not taught by the section of *Athreya et al.* discussed above (Col. 7, lines 8-25), since this section is silent on what the lower-level driver does with device objects after invocation from the filter add device function. The Office Action (p. 3) relies on a different passage in *Athreya et al.* to reject the “passing the PDO” feature: “driver entry 410 provides an entry point for the UMD 220 in response to an IRP issued by the higher level driver 218 (Col. 6, lines 60-67)”. However, this second passage discusses the universal multipath driver rather than the lower-level driver, and thus cannot properly teach “passing the PDO **from the uni-role driver**” under the construction assumed in this paragraph. Nor does *Athreya et al.* disclose,

teach, or suggest “passing the PDO” from the lower-level driver (the alleged “uni-role driver”) to “a component of the kernel” as recited in claim 6.

Alternatively, Applicant assumes that the lower-level driver of *Athreya et al.* corresponds to the claimed “multi-role driver”, and that the universal multipath driver corresponds to the claimed “uni-role driver”. The Office Action (p. 3) relies on *Athreya et al.* Col. 7, lines 8-25 in the rejection, which describes various entry points to the universal multipath driver. This section refers to a filter add device function entry point 250 in the universal multipath driver (allegedly “invoking the uni-role driver”), and Applicant assumes that “the PDO” is passed when calling this entry point. However, *Athreya et al.* **does not** disclose, teach, or suggest “passing the PDO” from the universal multipath driver to the lower-level driver (allegedly “passing the PDO from the first driver to the multi-role second driver or to a component of the kernel.”) as recited in claim 6. In fact, *Athreya et al.* specifically states that the filter add device function in the universal multipath driver passes a “**new filter device object**” rather than passing the physical device object (PDO) associated with the uni-role driver. (A specific physical device object is associated with the uni-role driver through the registration of the uni-role driver for the device.) Nor does *Athreya et al.* disclose, teach, or suggest “passing the PDO” from the multipath driver (the alleged “uni-role driver”) to “a component of the kernel” as recited in claim 6.

For at least the reason that *Athreya et al.* fails to disclose, teach or suggest the above-described features, Applicant respectfully submits that *Athreya et al.* does not anticipate claim 6. Therefore, Applicant requests that the rejection of claim 6 be withdrawn.

B. Independent Claim 7

The Office Action contends that *Athreya et al.* teaches all the features of claim 7 as follows:

determining a driver registered to the device [device objects correspond to physical devices having M device types; col. 2, lines 20 – 30];
invoking the driver, which includes passing the PDO of the device to the driver [filter add device function 450 creates and initializes a new filter

device object for the corresponding physical device object; col. 7, lines 8 – 25]; and
passing the PDO away from the driver without attempting to attach to the stack a DO corresponding to the driver [driver entry 410 provides an entry point for the UMD 220 in response to an IRP issued by the higher level driver 218; col. 6, lines 60 – 67].
(Office Action, p. 4.)

Applicant respectfully disagrees, and first notes that the Office Action has used exactly the same portions of *Athreya et al.* in rejecting claim 7 that were used to reject claim 6, even though these claims are clearly not equivalent in scope. Next, Applicant notes that *Athreya et al.* does not discuss device driver registration at all, and thus does not disclose “determining a driver **registered** to the device” as recited in claim 7. Since *Athreya et al.* does not teach all of the features of claim 7, the rejection should be withdrawn.

Applicant next notes that the cited sections of *Athreya et al.* refer to two different drivers, a universal multipath driver (UMD) and a lower-level driver. The Office Action does not clearly explain which of the two types of drivers in *Athreya et al.* corresponds to the claimed “driver”. Applicant will therefore address two alternative interpretations of the rejection, and discuss why *Athreya et al.* does not disclose, teach, or suggest “passing the PDO away from the driver without attempting to attach to the stack a DO corresponding to the driver” as recited in claim 7, under either interpretation of the Office Action rejection.

Applicant first assumes that the universal multipath driver of *Athreya et al.* corresponds to the claimed “driver”. The Office Action (p. 4) relies on Col. 7, lines 8-25 in the rejection, which describes various entry points to the universal multipath driver. Applicant agrees that the presence of a filter add device function entry point 250 in the universal multipath driver implies “invoking the driver, which includes passing the PDO” under the construction assumed in this paragraph. However, this passage in *Athreya et al.* **does not** disclose, teach, or suggest “passing the PDO” as recited in claim 7. In fact, *Athreya et al.* specifically states that the filter add device function passes a “**new filter device object**” rather than passing the physical device object (PDO). The Office Action (p. 4) relies on a different passage in *Athreya et al.* to reject the

“passing the PDO” feature: “driver entry 410 provides an entry point for the UMD 220 in response to an IRP issued by the higher level driver 218 (Col. 6, lines 60-67)”. Even assuming (for the sake of argument) that the IRP is passed to the driver entry and that the IRP references a PDO, this second passage says nothing about passing the PDO, much less passing the PDO away from the universal multipath driver.

Alternatively, Applicant assumes that the lower-level driver of *Athreya et al.* corresponds to the claimed “driver”. The Office Action (p. 4) relies on *Athreya et al.* Col. 7, lines 8-25 in the rejection, a section describing various entry points to the universal multipath driver. This section appears to teach that calling the filter add device function entry point 250 in the universal multipath driver would in turn invoke the lower-level driver (allegedly “invoking the driver”). However, *Athreya et al.* **does not** disclose, teach, or suggest “passing the PDO” at all, much less “passing the PDO away from” the lower-level driver. In fact, *Athreya et al.* specifically states that the filter add device function passes a “**new filter device object**” rather than passing the physical device object (PDO). The Office Action (p. 4) relies on a different passage in *Athreya et al.* to reject the “passing the PDO” feature: “driver entry 410 provides an entry point for the UMD 220 in response to an IRP issued by the higher level driver 218 (Col. 6, lines 60-67)”. Even assuming (for the sake of argument) that the IRP is passed to the driver entry and that the IRP references a PDO, this second passage says nothing about passing the PDO, much less passing the PDO away from the lower-level driver.

For at least the reason that *Athreya et al.* fails to disclose, teach or suggest the above-described features, Applicant respectfully submits that *Athreya et al.* does not anticipate claim 7. Therefore, Applicant requests that the rejection of claim 7 be withdrawn.

C. Independent Claim 13

The Office Action contends that *Athreya et al.* teaches all the features of claim 13 as follows:

providing a multi-role driver for a plurality of device types; [universal multipath driver (UMD) 220; col. 6, line 55 – col. 7, line 10]; but not registering, in the registry of the operating system, the multi-role driver as having a role in assembly of the stack. [driver entry 410 provides an entry point for the UMD 220 in response to an IRP issued by the higher level driver 218; col. 6, lines 60 – 67].
(Office Action, p. 4.)

Applicant respectfully disagrees. *Athreya et al.* does not discuss device driver registration at all, but absence of a discussion on driver registration is not the same as the specific feature recited, namely “not registering, in the registry of the operating system, the multi-role driver”. Since *Athreya et al.* does not teach all of the features of claim 13, the rejection should be withdrawn.

D. Dependent Claim 14

Since independent claim 13 is allowable, Applicant respectfully submits that claim 14 is allowable for at least the reason that each depends from an allowable claim. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596, 1598 (Fed. Cir. 1988). Therefore, Applicant respectfully requests that the rejection of claim 14 be withdrawn.

II. Rejection of Claims 1-5, 8-12, and 15-28 under 35 U.S.C. §103

Claims 1-5, 8-12, and 15-28 are rejected under §103(a) as allegedly obvious over *Athreya et al.* (U.S. 7,222,348) in view of *Jantz et al.* (U.S. 7,093,265). Applicant respectfully traverses this rejection. It is well established at law that, for a proper rejection of a claim under 35 U.S.C. §103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest (either implicitly or explicitly) all elements/features/steps of the claim at issue. See, e.g., *In re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988); *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981).

A. Independent Claim 1

Applicant respectfully submits that claim 1 is allowable for at least the reason that the proposed combination of *Athreya et al.* in view of *Jantz et al.* does not disclose, teach, or suggest the feature of “registering a plurality of uni-role helper drivers so as to uniquely

correspond to the plurality of roles, respectively”. In fact, neither *Athreya et al.* nor *Jantz et al.* discusses device driver registration **at all**. Since the proposed combination does not teach all of the features of claim 1, the rejection should be withdrawn.

Claim 1 is also allowable for the separate reason that the proposed combination of *Athreya et al.* in view of *Jantz et al.* does not disclose, teach, or suggest the feature of “indirectly specifying a corresponding one of the multiple roles of the multi-role driver by specifying the helper driver mapped thereto”. The Office Action (p. 6) contends that this feature is disclosed by *Athreya et al.* as follows: “driver entry 410 provides an entry point for the UMD 220 in response to an IRP issued by the higher level driver 218 (col. 6, line 55 to col. 7, line 10)”. Applicant respectfully disagrees. The Office Action (p. 5) specifically contends that the UMD in *Athreya et al.* corresponds to the claimed “multi-role driver”, thus implying that the higher-level driver in *Athreya et al.* corresponds to the claimed “helper driver”. Applicant assumes (for the sake of argument) that this correspondence is proper. Even so, the cited portion of *Athreya et al.* merely describes the invocation of the driver entry point in the UMD (alleged “multi-role driver”) in response to an action by a higher-level driver (alleged “helper driver”). *Athreya et al.* does not describe a correspondence between roles and helper drivers as required by claim 1. Furthermore, *Athreya et al.* describes interaction between a **single** higher-level driver (alleged “helper driver”) while claim 1 refers to multiple helper drivers.

Although not relied on by the Office Action, Applicant notes that another section of *Athreya et al.* describes a third type of driver, the lower-level driver, as follows:

The universal multipath driver (UMD) 220 is a driver that provides multipath management to the storage devices shown in FIG. 1B such as the tape drives, the tape library, and the disk subsystem. The UMD 220 responds to an IRP sent by the higher level driver 218 and interfaces to the lower level driver 250.

The lower level driver 250 includes drivers that are directly responsible for the control and management of the devices attached to the system. The lower level driver 250 includes a tape drive device driver 252, a tape library device driver 254, and a HBA driver 256 which are drivers for device 165_i, library 165_j, and HBA 165_k, respectively. (*Athreya et al.*, Col. 6, lines 25-40.)

This passage appears to imply that the UMD maintains some sort of association between the UMD itself and the lower level drivers. However, even assuming that the lower-level driver properly corresponds to a “helper driver”, this section of *Athreya et al.* does not disclose (even implicitly) a correspondence between “**roles** of the multi-role driver” and helper drivers. Applicant notes that the Office Action appears to equate roles and physical devices (see Office Action, p. 6), while the language used in claim 1 refers to them as two separate items: “there being a multi-role driver for a plurality of roles at least one of which corresponds to the device”. Therefore, if this rejection is maintained in a future Office Action, the Examiner is requested to specifically identify which feature or teaching in the references allegedly corresponds to the “plurality of roles” recited in claim 1.

Finally, *Jantz et al.* fails to disclose, teach, or suggest “indirectly specifying a corresponding one of the multiple roles of the multi-role driver by specifying the helper driver mapped thereto”. *Jantz et al.* does describe a type of mapping or correspondence which involves a driver: “the multipath driver has knowledge of the virtual-to-physical associations or mapping definition 132 that defines the relational correspondence between the physical paths and the virtual paths” (Col. 14, lines 1-5). However, even assuming (for the sake of argument) that the “multipath driver” of *Jantz et al.* can be properly substituted for the “multipath driver” of *Athreya et al.*, a mapping between physical and virtual paths is not the same as a correspondence between roles and helper drivers as required by claim 1.

Accordingly, the proposed combination of *Athreya et al.* in view of *Jantz et al.* does not teach at least the above-described features recited in claim 1. Therefore, a *prima facie* case establishing an obviousness rejection has not been made, and the rejection should be withdrawn.

B. Independent Claim 8

Applicant respectfully submits that claim 8 is allowable for at least the reason that the proposed combination does not disclose, teach, or suggest the feature “providing a plurality of DOPush functions in a multi-role driver”. The Office Action contends (p. 13) that this feature is disclosed at Col. 6, lines 60-67 of *Athreya et al.*, which reads:

FIG. 4 is a diagram illustrating the universal multipath driver (UMD) 220 according to one embodiment of the invention. The UMD 220 includes a driver entry 410, a major function group 420, a system thread 480, and a path monitor 490.

The driver entry 410 provides an entry point for the UMD 220 in response to an IRP issued by the higher level driver 218. The driver entry 410 includes a driver object pointer 415 that provides address reference or points to the major function group 420. The driver entry 410 also causes creation of the system thread 480. The system thread 480 invokes the path monitor 490.

(*Athreya et al.*, Col. 6, lines 55-67.)

Applicant respectfully disagrees. While the universal multipath driver in *Athreya et al.* does provide multiple functions, Applicant respectfully submits that none are “DOPush functions”. The Office Action appears to have given the term used in the claim an unreasonably broad interpretation, and has made no attempt to explain why any of the functions in this passage in *Athreya et al.* would be interpreted by a person of ordinary skill in the art as a “DOPush function”. Nor does *Jantz et al.* disclose, teach, or suggest “providing a plurality of DOPush functions in a multi-role driver”. Accordingly, the proposed combination of *Athreya et al.* in view of *Jantz et al.* does not teach at least the above-described features recited in claim 8. Therefore, a *prima facie* case establishing an obviousness rejection has not been made, and the rejection should be withdrawn.

C. Independent Claim 15

Applicant respectfully submits that claim 15 is allowable for at least the reason that the proposed combination of *Athreya et al.* in view of *Jantz et al.* does not disclose, teach, or suggest the feature of “an installer code portion for registering the plurality of helper driver code

portions so as to uniquely map to the multiple roles, respectively". In fact, neither *Athreya et al.*

nor *Jantz et al.* discusses device driver installation or registration **at all**. Since the proposed combination does not teach all of the features of claim 15, the rejection should be withdrawn.

Claim 15 is also allowable for the separate reason that the proposed combination of *Athreya et al.* in view of *Jantz et al.* does not disclose, teach, or suggest at least the feature of "each helper driver code portion being operable to receive a corresponding PDO and pass the PDO to the multi-role driver code portion without attempting to attach to the stack a DO corresponding to the help driver code portion". The Office Action contends that this feature is disclosed by *Athreya et al.* as follows:

each helper driver code portion being operable to receive a corresponding PDO [col. 7, lines 8 - 25 of *Athreya*] and pass the PDO to the multi-role driver code portion without attempting to attach to the stack a DO corresponding to the helper driver code portion [driver entry 410 includes a driver object pointer 415 that provides address reference or points to the major function group 420; col. 6, lines 60 - 67 of *Athreya*].
(Office Action, p. 4.)

Applicant respectfully disagrees. The second section of *Athreya et al.* referred to in the rejection reads as follows:

FIG. 4 is a diagram illustrating the universal multipath driver (UMD) 220 according to one embodiment of the invention. The UMD 220 includes a driver entry 410, a major function group 420, a system thread 480, and a path monitor 490.

The driver entry 410 provides an entry point for the UMD 220 in response to an IRP issued by the higher level driver 218. The driver entry 410 includes a driver object pointer 415 that provides address reference or points to the major function group 420. The driver entry 410 also causes creation of the system thread 480. The system thread 480 invokes the path monitor 490.

(*Athreya et al.*, Col. 6, lines 55-67.)

Even assuming (for the sake of argument) that the IRP is passed to the driver entry and that the IRP references a PDO, this second passage says nothing about passing the PDO. Applicant notes that absence of a discussion on how PDOs are passed is not the same as the specific feature recited in claim 15, namely "without attempting to attach to the stack a DO corresponding to the helper driver code portion". Also, although not relied on by the rejection,

Applicant notes that another section of *Athreya et al.* (Col. 7, lines 15-25) describes passing of device objects. However, this section specifically mentions attaching the device object to the stack rather than “**without** attempting to attach to the stack” as recited in claim 15.

Finally, *Jantz et al.* fails to disclose, teach, or suggest “each helper driver code portion being operable to receive a corresponding PDO and pass the PDO to the multi-role driver code portion without attempting to attach to the stack a DO corresponding to the help driver code portion”. Accordingly, the proposed combination of *Athreya et al.* in view of *Jantz et al.* does not teach at least the above-described features recited in claim 15. Therefore, a *prima facie* case establishing an obviousness rejection has not been made, and the rejection should be withdrawn.

D. Independent Claim 20

Applicant respectfully submits that claim 20 is allowable for at least the reason that the proposed combination of *Athreya et al.* in view of *Jantz et al.* does not disclose, teach, or suggest the feature of “a plurality of helper driver means registered so as to uniquely correspond to the plurality of roles, respectively, of the multi-role driver”. In fact, neither *Athreya et al.* nor *Jantz et al.* discusses device driver registration **at all**. Since the proposed combination does not teach all of the features of claim 20, the rejection should be withdrawn.

Claim 20 is also allowable for the separate reason that the proposed combination of *Athreya et al.* in view of *Jantz et al.* does not disclose, teach, or suggest at least the feature of “means for selectively invoking the multi-role driver according to one of the multiple roles via invoking the corresponding helper driver mapped thereto”. The Office Action (p. 9) contends that this feature is disclosed by *Athreya et al.* as follows: “driver entry 410 provides an entry point for the UMD 220 in response to an IRP issued by the higher level driver 218 (col. 6, line 55 to col. 7, line 10)”. Applicant respectfully disagrees. The Office Action (p. 9) specifically contends that the UMD in *Athreya et al.* corresponds to the claimed “multi-role driver”, thus implying that

the higher-level driver in *Athreya et al.* corresponds to the claimed “helper driver”. Applicant assumes (for the sake of argument) that this correspondence is proper. Even so, the cited portion of *Athreya et al.* merely describes the invocation of the driver entry point in the UMD (alleged “multi-role driver”) in response to an action by a higher-level driver (alleged “helper driver”). *Athreya et al.* does not describe a correspondence between roles and helper drivers as required by claim 20. Furthermore, *Athreya et al.* describes interaction between a **single** higher-level driver (alleged “helper driver”) while claim 20 references multiple helper driver means.

Although not relied on by the Office Action, Applicant notes that another section of *Athreya et al.* describes a third type of driver, the lower-level driver, as follows:

The universal multipath driver (UMD) 220 is a driver that provides multipath management to the storage devices shown in FIG. 1B such as the tape drives, the tape library, and the disk subsystem. The UMD 220 responds to an IRP sent by the higher level driver 218 and interfaces to the lower level driver 250.

The lower level driver 250 includes drivers that are directly responsible for the control and management of the devices attached to the system. The lower level driver 250 includes a tape drive device driver 252, a tape library device driver 254, and a HBA driver 256 which are drivers for device 165_i, library 165_j, and HBA 165_k, respectively.
(*Athreya et al.*, Col. 6, lines 25-40.)

This passage appears to imply that the UMD maintains some sort of association between the UMD itself and the lower level drivers. However, even assuming that the lower-level driver properly corresponds to a “helper driver means”, this section of *Athreya et al.* does not disclose (even implicitly) a correspondence between helper drivers and “**roles**” of the multi-role driver means. Applicant notes that the Office Action appears to equate roles and physical devices (see Office Action, p. 8). However, the language used in claim 20 refers to them as two separate items: “there being a multi-role driver for a plurality of roles at least one of which corresponds to the device”. If this rejection is maintained in a future Office Action, the Examiner is requested to specifically identify which feature or teaching in the references allegedly corresponds to the “plurality of roles” recited in claim 20.

Finally, *Jantz et al.* fails to disclose, teach, or suggest “means for selectively invoking the multi-role driver according to one of the multiple roles via invoking the corresponding helper driver mapped thereto”. *Jantz et al.* does describe a type of mapping or correspondence which involves a driver: “the multipath driver has knowledge of the virtual-to-physical associations or mapping definition 132 that defines the relational correspondence between the physical paths and the virtual paths” (Col. 14, lines 1-5). However, even assuming (for the sake of argument) that the “multipath driver” of *Jantz et al.* can be properly substituted for the “multipath driver” of *Athreya et al.*, a mapping between physical and virtual paths is not the same as a correspondence between roles and helper driver means as required by claim 20.

Accordingly, the proposed combination of *Athreya et al.* in view of *Jantz et al.* does not teach at least the above-described features recited in claim 20. Therefore, a *prima facie* case establishing an obviousness rejection has not been made, and the rejection should be withdrawn.

E. Independent Claim 24

Applicant respectfully submits that claim 24 is allowable for at least the reason that the proposed combination of *Athreya et al.* in view of *Jantz et al.* does not disclose, teach, or suggest the feature of “a first code portion for registering the plurality of helper driver code portions so as to uniquely correspond to the plurality of roles, respectively, each helper driver code portion mapping uniquely to one of the multiple roles of the multi-role driver, respectively”. In fact, neither *Athreya et al.* nor *Jantz et al.* discusses device driver registration **at all**. Since the proposed combination does not teach all of the features of claim 24, the rejection should be withdrawn.

Claim 24 is also allowable for the separate reason that the proposed combination of *Athreya et al.* in view of *Jantz et al.* does not disclose, teach, or suggest the feature of “a second code portion for indirectly specifying a corresponding one of the multiple roles of the multi-role

driver by specifying the helper driver code portion mapped thereto". The Office Action (p. 9) contends that this feature is disclosed by *Athreya et al.* as follows: "driver entry 410 provides an entry point for the UMD 220 in response to an IRP issued by the higher level driver 218 (col. 6, line 55 to col. 7, line 10)". Applicant respectfully disagrees. The Office Action (p. 8) specifically contends that the UMD in *Athreya et al.* corresponds to the claimed "multi-role driver", thus implying that the higher-level driver in *Athreya et al.* corresponds to the claimed "helper driver". Applicant assumes (for the sake of argument) that this correspondence is proper. Even so, the cited portion of *Athreya et al.* merely describes the invocation of the driver entry point in the UMD (alleged "multi-role driver") in response to an action by a higher-level driver (alleged "helper driver"). *Athreya et al.* does not describe a correspondence between roles and helper drivers as required by claim 24. Furthermore, *Athreya et al.* describes interaction between a **single** higher-level driver (alleged "helper driver") while claim 24 refers to multiple helper drivers.

Although not relied on by the Office Action, Applicant notes that another section of *Athreya et al.* describes a third type of driver, the lower-level driver, as follows:

The universal multipath driver (UMD) 220 is a driver that provides multipath management to the storage devices shown in FIG. 1B such as the tape drives, the tape library, and the disk subsystem. The UMD 220 responds to an IRP sent by the higher level driver 218 and interfaces to the lower level driver 250.

The lower level driver 250 includes drivers that are directly responsible for the control and management of the devices attached to the system. The lower level driver 250 includes a tape drive device driver 252, a tape library device driver 254, and a HBA driver 256 which are drivers for device 165_i, library 165_j, and HBA 165_k, respectively. (*Athreya et al.*, Col. 6, lines 25-40.)

This passage appears to imply that the UMD maintains some sort of association between the UMD itself and the lower level drivers. However, even assuming that the lower-level driver properly corresponds to a "helper driver", this section of *Athreya et al.* does not disclose (even implicitly) a correspondence between "**roles** of the multi-role driver" and helper drivers. Applicant notes that the Office Action appears to equate roles and physical devices (see Office

Action, p. 6), while the language used in claim 24 refers to them as two separate items: “there being a multi-role driver for a plurality of roles at least one of which corresponds to the device”. Therefore, if this rejection is maintained in a future Office Action, the Examiner is requested to specifically identify which feature or teaching in the references allegedly corresponds to the “plurality of roles” recited in claim 24.

Finally, *Jantz et al.* fails to disclose, teach, or suggest “indirectly specifying a corresponding one of the multiple roles of the multi-role driver by specifying the helper driver mapped thereto”. *Jantz et al.* does describe a type of mapping or correspondence which involves a driver: “the multipath driver has knowledge of the virtual-to-physical associations or mapping definition 132 that defines the relational correspondence between the physical paths and the virtual paths” (Col. 14, lines 1-5). However, even assuming (for the sake of argument) that the “multipath driver” of *Jantz et al.* can be properly substituted for the “multipath driver” of *Athreya et al.*, a mapping between physical and virtual paths is not the same as a correspondence between roles and helper drivers as required by claim 24.

Accordingly, the proposed combination of *Athreya et al.* in view of *Jantz et al.* does not teach at least the above-described features recited in claim 24. Therefore, a *prima facie* case establishing an obviousness rejection has not been made, and the rejection should be withdrawn.

F. Dependent Claims 2-5, 9-12, 16-19, 21-23, and 25-28

Since independent claims 1, 8, 15, 20, and 24 are allowable, Applicant respectfully submits that claims 2-5, 9-12, 16-19, 21-23, and 25-28 are allowable for at least the reason that each depends from an allowable claim. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596, 1598 (Fed. Cir. 1988). Therefore, Applicant respectfully requests that the rejection of claims 2-5, 9-12, 16-19, 21-23, and 25-28 be withdrawn.

CONCLUSION

Applicant respectfully requests that all outstanding objections and rejections be withdrawn and that this application and presently pending claims 1-28 be allowed to issue. Any statements in the Office Action that are not explicitly addressed herein are not intended to be admitted. In addition, any and all findings of inherency are traversed as not having been shown to be necessarily present. Furthermore, any and all findings of well-known art and official notice, or statements interpreted similarly, should not be considered well known since the Office Action does not include specific factual findings predicated on sound technical and scientific reasoning to support such conclusions. If the Examiner has any questions or comments regarding Applicant's response, the Examiner is encouraged to telephone Applicant's undersigned counsel.

Respectfully submitted,

By: /Karen G. Hazzah/

Karen G. Hazzah, Reg. No. 48,472

**THOMAS, KAYDEN, HORSTEMEYER
& RISLEY, L.L.P.**

600 Galleria Parkway, SE
Suite 1500
Atlanta, Georgia 30339
Tel: (770) 933-9500
Fax: (770) 951-0933